

NIST Comments

Thank you for providing a voice for Assistive Technology Standards.

RESNA Assistive Technology Standards Work

The Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) is a standards developing organization accredited by the American National Standards Institute (ANSI).

RESNA works cooperatively to develop voluntary national consensus standards. Accreditation by ANSI signifies that the procedures used by the RESNA Assistive Technology Standards Board (ATSB) in connection with the development of American National Standards meet the Institute's essential requirements for openness, balance, consensus, and due process.

ANSI is the official U.S. representative to the International Organization for Standardization (ISO). The RESNA ATSB is the U.S. Technical Advisory Group to ANSI for the development of ISO standards pertaining to assistive technology and other products for persons with disabilities. The related ISO Standards are as follows:

- ISO/TC 173 – Assistive Products for Persons with Disabilities
- ISO/TC 173/WG 7 – Provisions and Means for Orientation of Visually Impaired Persons in Pedestrian Areas
- ISO/TC 173/SC 1 – Wheelchairs
- ISO/TC 173/SC 1/WG 1 – Test Methods
- ISO/TC 173/SC 1/WG 6 – Wheelchair Restraint Systems
- ISO/TC 173/SC 1/WG 8 – Stair Traversing Devices
- ISO/TC 173/SC 1/WG 10 – Electro-technical Systems
- ISO/TC 173/SC 1/WG 11 – Wheelchair Seating

The RESNA ATSB currently oversees 7 Assistive Technology Standards Committees:

- Wheelchairs (including Scooters) (WCS)
- Wheelchairs and Transportation (WHAT)
- Wheelchair Seating (WRS)
- Support Surfaces (SS)
- Adaptive Sports Equipment (ASE)
- Emergency Stair Travel Devices used by Individuals with Disabilities (ESTD)
- Cognitive Technologies (CT)

Currently there are two published RESNA Standards and four standards that are in progress and hope to be published this year:

- RESNA WC-1 Wheelchairs – Volume 1: Requirements and Test Methods for Wheelchairs (including Scooters); published 2009

RESNA WC-2 Wheelchairs – Volume 2: Additional Requirements for Wheelchairs (including Scooters) with Electrical Systems; published 2009

Draft RESNA WC-3 Wheelchairs – Volume 3: Wheelchair Seating

Draft RESNA WC-4 Wheelchairs – Volume 4: Wheelchairs and Transportation

Draft RESNA SSS-1 – Volume 1: Full Support Surface Terminology and Characterization

Draft RESNA AT-1 – Volume 1: Emergency Stair Travel Devices for Individuals with Disabilities

Opportunities for improvement

There is a need for increased Federal involvement in the development of standards for accessibility and for assistive technology products for persons with impairments and limitations. Some opportunities for improvements are listed below:

- RESNA Wheelchair Standards (WC-1 & WC-2) – The published standards, WC-1:2009 and WC-2:2009, are referenced by PDAC (Pricing, Data Analysis, and Coding Contractor), the organization that codes wheelchairs for medical reimbursement according to the policies set by the Centers for Medicare & Medicaid Services (CMS). There is a need for communication of PDAC with the RESNA Assistive Technology Standards Committee on Wheelchairs to share the data they have about products in even a generic way to help the standards committee set appropriate minimum performance values for performance and safety. The Food and Drug Administration (FDA) has actively participated in the development of the RESNA Wheelchair Standards and is implementing their premarket approval process (510k) to reference the newest version of the RESNA Vol 1 and 2 Wheelchair Standards.
- At least the chairman of the RESNA Standards Committee on Wheelchairs (WCS) needs to be able to communicate with PDAC with questions and input from the RESNA Committee. PDAC has application forms for submission of coding requests that have incorrectly referenced test procedures. Now that significant data is available on test results requested by PDAC, they need to decide what the minimum performance requirements should be. As mobility products evolve with regard to features and performance, there should be a process in place to adjust and fine tune the coding requirements to better meet the needs of the Medicare recipients that use the devices. Also, the PDAC Website could use clarification to correctly direct wheelchair manufacturers on how to apply the RESNA wheelchair standards test procedures. Having a representative from PDAC participate in the work of the RESNA Standards Committee on Wheelchairs would alleviate many of these problems.
- The FDAs continued participation in the RESNA Standards Committee on Wheelchairs is very important. Limitations in their ability to attend meetings makes it hard for the Administration to have a dialogue with the rest of the committee. There is a perception from that wheelchair industry and many of the committee members that the test requirements for a 510k application on a powered wheelchair are not clear and make it confusing for manufacturers to determine exactly what test results should be submitted.

- RESNA Wheelchairs and Transportation (WC-4) – New safety features have been implemented through standardization to include tested securement points on manual and powered wheelchairs to be safely secured in vehicles during transport, but there are no requirements for these important safety features on products that are purchased by Medicare recipients. Those people, of course, are often transported for medical appointments and use public transportation to get their food and needed services. The situation illustrates a broader problem; there is no timely mechanism for the agencies that make decisions about the purchase of mobility devices to regularly update their requirements as products are improved as a result of standardization work. The Transportation Section guidelines in ADA are currently an impediment to system problem-solving. Also, in many instances ADA states guidelines without specifications or test methods to determine compliance. RESNA has been actively involved in making recommendations on the ADA amendments being proposed by the US Access Board. Better understanding of transportation safety and related vehicle access issues is clearly needed. This work could be enhanced by the participation of the Dept. of Transportation (NHTSA) or the NTSB or other Federal agencies, such as Veterans Administration and the US Access Board.
- RESNA Wheelchair Seating (WC-3) – Components of wheelchair seating standards are used by CMS in its coding verification requirements for skin protection wheelchair seat cushions. There is a need to update the test methods specified in the coding requirements to be more in line with current knowledge and updated standards. A mechanism for sustained communication between the PDAC/CMS and the RESNA Standards Committee on Wheelchair Seating is needed. This mechanism will facilitate, the regular update by CMS of their requirements as standards development progresses, as well as allow input by experts as they make decisions about coding and reimbursement for wheelchair seating devices.
- RESNA Cognitive Technologies (CT-1) –This committee is developing an ease-of-use rating system that will be applicable to everyone and enable people of all abilities to more efficiently purchase products and software that better meets their needs. If these design standards are implemented, manufacturers of a vast variety of everyday products, computer hardware and software will be able to create improvements or variations in their products or the programming of their products to enable use of more mainstream products by more people, thus increasing access and decreasing costs to people with disabilities. Such a rating system could easily be tailored to reflect the principles of food facts labeling which provide consumers with objective information about the food we eat.
- RESNA Standards Committee on Emergency Stair Travel Devices used by Individuals with Disabilities (AT-1) – This committee is developing performance standards and inspection procedures which will help ensure the quality and usability of devices used during evacuations. These devices, which have received much attention since the 1993 and 2001 attacks on the World Trade Center, vary greatly in their basic design and cost. The Standard will benefit consumers, life safety professionals, and building owners/managers.

- The RESNA Standards Committee on Support Surfaces (SS-1) – With CMS policy implementation impacting delivery of products and value of reimbursement for products delivered through Medicare or Medicaid being tied to performance, it becomes critical to standardized measures of performance. Use of manufacturer statements of use or qualification based on physical descriptions as now used are woefully inadequate to ensure that the cost saving efforts of CMS are not actually becoming detrimental to the health of their beneficiaries. Federal involvement would provide direction to the necessary measures to improve delivery impact on health. In the creation of measures of performance that ultimately impact quality of life and provision of products that maintain, prolong or enable life by products delivered through CMS, it is critical that CMS play a role in that measure of performance. This expectation may even extend to funding obligations.
- ASTM F08.30 Fitness Products - Universal Design of Fitness Equipment Standards are being developed to increase access by people of all abilities and across the range of disabilities (mobility, visual, hearing, cognitive, etc.) in public entities. Simple specifications could be incorporated into existing lines of exercise equipment to make them more accessible to everyone, such as a high contrast marking across treadmill belts to visually signify when they are moving. If these specifications are implemented, we could reduce the need for specialty adaptive products that cost more for persons with limitations and impairments. In addition, using mainstream equipment allows people with disability to be included in participation in public gyms, such as the YMCA, which has tremendous social and health benefits as well. These specifications can also help prevent injuries from mainstream equipment used in public gyms by everyone.
- ASTM F08.63 Playground Surfacing Systems – These standards address the safety and accessibility of surfaces used on public playgrounds. The shredded rubber industry is in effect fighting the development of a portable test procedure to test playgrounds for firmness and stability accessibility in the field. Many of their products, once installed do not provide accessibility for adults or children with disabilities. The guidelines for playground surfaces required a balance between safety for head impact and firmness and stability for accessibility. The Consumer Product Safety Commission (CPSC) was recently approached by the shredded rubber industry with a request to increase the safety requirement for head impact safety at the expense of accessibility when there are new and innovative material solutions that provide increased safety with increased accessibility. It is not possible to get standards for accessibility approved when the accessibility voice is only one or two members and the committee can be up to 50% manufacturers. All it takes is a 10% minority to block an accessibility related standard from getting approved within ASTM. The devices needed to objectively measure accessibility need to be adopted as standards by some agency so that performance values can be determined. If the manufactures of a surface material do not want to be regulated for accessibility, all they have to do is vote against any devices that are developed to measure accessibility.
- Accessibility standards face a more difficult uphill battle, and resistance on the part of manufacturers seems short sighted. In most cases, if accessibility guidelines incorporating universal design principles are implemented into the standards, a larger percentage of Americans will be able to use the products. Considerations for dexterity,

for example, help people with specific disabilities, aging individuals, and people with temporary disabilities due to injury or illness. They also simplify and ease processes for most other people. Standards for the design of equipment for persons with cognitive impairments benefits a broad range of users that are looking for products that are simple and easy to use. The current standards process, however, allows manufacturers and service providers to defend costs and water down requirements. We miss improvements that could have represented a minimal increase in cost with benefits for a large percentage of the population. For example, incorporating universal design principles into the standards development process enables persons with disabilities to use more mainstream products at an incredible reduction in the requirement for specialty designed assistive technologies in many cases.

- The Americans with Disabilities Act (ADA) requires inclusion. The RESNA-ASE, RESNA-CT, ASTM F08.63 Playground Surfacing Systems, and ASTM F08.30 Fitness Products Committees are working to address inclusion. In many instances ADA states guidelines without specifications or test methods to determine compliance. This is where standards come in to play.
- The lack of financial support to help the standardization process include persons with disabilities who use assistive technology products is a significant problem. Technical experts with disabilities exist, but they do not have the resources to attend the meetings which are most often dominated by manufacturers.

General recommendations

- Provide a mechanism to request the involvement of appropriate federal agencies in standards development to assist "orphan standards" related to accessibility of products and environments, and assistive technology products.
- Provide a mechanism to apply for funding assistance for the development of "orphan standards" by not-for-profit organizations like RESNA, an accredited ANSI standards developer, to develop needed standards for the universal design of environments, products, and assistive technology products.
- Federal agencies should participate on the existing committees that are addressing standardization to improve the lives of people with disabilities as applicable, such as:
Centers for Medicare and Medicaid Services (CMS)
Department of Homeland Security (DHS)
Department of Labor (DOL)
Department of Transportation (DOT)
Federal Emergency Management Agency (FEMA)
US Access Board
US Food and Drug Administration (FDA)
National Highway Traffic Safety Administration (NHTSA)
National Transportation Safety Board (NTSB)
Prospectors and Developers Association of Canada (PDAC)
Veterans Administration (VA)

- The National Institute on Disability and Rehabilitation Research (NIDRR) could be a possible agency that could oversee and coordinate support for this work. NIDRR has been supporting the development of standards for technologies for persons with cognitive impairments through the RESNA-CT Committee, the development of the universal design of fitness equipment standards through the ASTM F08.30 Fitness Product Committee through NIDRR funded RERC Development grants, as well as the development of RESNA wheelchair transportation safety standards through RERC grants.
- The FDA places a high priority on specific safety issues with regard to the premarket approval process. As new test procedures are added to prevent the occurrence of fires on powered wheelchairs, there needs to be a mechanism to adopt these new sections of the standards so that they can be required for testing to obtain 510k premarket approval.